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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,326	03/26/2004	Wieslaw Jerzy Szajnowski	1906-0132PUS1	8230
2292	7590	01/20/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			LOBO, IAN J	
			ART UNIT	PAPER NUMBER
			3662	
DATE MAILED: 01/20/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,326

Applicant(s)

SZAJNOWSKI, WIESLAW JERZY

Examiner

Ian J. Lobo

Art Unit

3662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 8-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/26/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1-7, 11 and 12 in the reply filed on November 14, 2005 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Showen et al ('998) when taken in view of the PG-Publication to Millikin ('454) and article to Pahlavan et al.

Showen et al discloses an object tracking system that includes four or more sensors (24) located at different sites (col. 5, lines 16-22). The system includes a control means (28) that selects a sub-set of the sensors (triangulation sensors, see col. 8, lines 9+) and uses a triangulation algorithm (time of arrival, col. 7, lines 40-47) to enable calculation of the location of the object. Note that Showen et al suggests an alternate angle of arrival (AOA) triangulation scheme.

The difference between claim 1 and Showen et al is the claim specifies using "the amount by which the times at which the sensors of the sub-set receive the signal are delayed with respect to each other" to enable calculation of the object. Claim 11 is

similarly differentiated by claiming "deriving at least two time measurements each representing the difference in time between". More specifically, it appears that the difference between claims 1 and 11 and Showen et al is the triangulation technique claimed uses time difference of arrival (TDOA) whereas Showen et al uses time of arrival (TOA) or angle of arrival (AOA) data.

The paper entitled "An Overview of Wireless Indoor Geolocation Techniques and Systems," by Kaveh Pahlavan, et al, published in Proceedings of Mobile and Wireless Communications Networks (MWCN 2000), Paris, France, May 2000, provides an overview of various indoor geolocation systems, including results on predicted performance of such systems. The paper points out that compared to the TOA method, the main advantage of the TDOA method is that knowledge of the transmit time from the transmitting source to be located is not required, while the TOA method does require this information. Millikin teaches that TDOA measurements are well known in the field of identifying and locating sound emitting objects.

Thus, in view of Pahlavan et al it would be obvious to one of ordinary skill in the art to modify the triangulation technique of Showen et al by using TDOA measurements rather than TOA or AOA measurements because knowledge of the transmit time from the source is not required. As taught by Millikin, TDOA measurements for object tracking systems is well known. Claims 1 and 11 are so rejected.

Per claims 2-5 and 12, see Showen et al, col. 7, lines 19+.


Allowable Subject Matter

4. Claims 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian J. Lobo whose telephone number is (571) 272-6974. The examiner can normally be reached on Monday - Friday, 6:30 - 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H. Tarcza can be reached on (571) 272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ian J. Lobo
Primary Examiner
Art Unit 3662